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Supplementary Information

First Blue Fluorescence Composite Film Based on Graphitic Carbon Nitride Nanosheets/Polyoxometalate for Application in Reversible Electroluminescent Switching

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Figures S1-S12 are included in the supplementary material.



Fig. S1. The fluorescence spectra of $g-C_3N_4$ and $g-C_3N_4NS$ in water with the same concentrations.



Fig. S2. The fluorescence spectra of $g-C_3N_4NS$ (1 mmol·L⁻¹) in different pH buffer solutions at the excitation wavelength of 340 nm.



Fig. S3. The zeta potential graphs of SiMoW (a) and $g-C_3N_4NS$ (b) in water solution.



Fig. S4. AFM height sensor and phase images of composite films [PEI/SiMoW] and (a and d), [PEI/SiMoW/g-C₃N₄NS] (b and e) and [PEI/(SiMoW/g-C₃N₄NS)₂] (c and f) on ITO substrates in the scanning range of 2.0 μ m.



Fig. S5. The XPS survey spectrum for the composite film $[g-C_3N_4NS/SiMoW]_{20}$.



Fig. S6. The characteristic absorption spectra of $g-C_3N_4NS$ and PSS (a); UV-vis spectra for the $[g-C_3N_4NS/PSS]_6$ film on quartz slide.



Fig. S7. The emission spectra of the composite film $[ITO/(g-C_3N_4NS/PSS)_6]$ and the blank ITO electrode at the excitation wavelength of 340 nm.



Fig. S8. The CV curves of film 1 $[(g-C_3N_4NS/PSS)_6/(PEI/SiMoW)_{10}]$ and film 2 $[(PEI/SiMoW)_2/(g-C_3N_4NS/SiMoW)_6/(PEI/SiMoW)_2]$ with the scan rate of 100 mV·s in pH 2.0 buffer solution.



Fig. S9. The fluorescence spectra of the film 2 and $g-C_3N_4NS$ (1 mmol·L⁻¹) in pH 2.0 buffer solution at the excitation wavelength of 340 nm.



Fig. S10. Fluorescence spectra of the film 2 in 0.5 mol·L⁻¹ H_2SO_4/Na_2SO_4 (pH = 2.0) aqueous solution at different reduction voltages for 25s.



Fig. S11. UV-vis spectra of the film $[ITO/(g-C_3N_4NS/PSS)_6]$ in 0.5 mol·L⁻¹ H_2SO_4/Na_2SO_4 (pH = 2.0) aqueous solution at open circuit and applied potentials of -0.8V and +0.8V for 25s respectively.



Fig. S12. Fluorescence spectra of the film $[ITO/(g-C_3N_4NS/PSS)_6]$ in 0.5 mol·L⁻¹ H_2SO_4/Na_2SO_4 (pH = 2.0) aqueous solution at open circuit and applied potentials of -0.8V and +0.8V for 25s respectively.